

# **Notice of Allowability**

**Application No.**

10/628,171

**Examiner**

Jennifer Doan

**Applicant(s)**

GROT ET AL.

**Art Unit**

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on July 8, 2005.
2. ☒ The allowed claim(s) is/are 1-4,6-9,11-16 and 18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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## **EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

### ***Response to Amendment***

1. Applicants' amendment filed on July 8, 2005 has been fully considered and entered.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gerald H. Glanzman on October 12, 2005.

The application has been amended as follows:

In claim 16, line 11, please change "if the material" to -- of the material -- (to fix the typo error).

In the abstract, line 1, please change "WG" to -- waveguide --.

In the abstract, lines 1 and 2, please change "WGs" to -- waveguides --.

***Reasons for Allowance***

3. Claims 1-4, 6-9, 11-16 and 18 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or reasonably suggest all the limitations recited in the amended base claims 1, 4, 6, 7, 9, 11, 12 and 16.

Specifically, the prior art of record fails to disclose a method for aligning optical waveguides and an apparatus of an optical waveguide device comprising an optical coupler extending across the gap between the first ends of the first and second optical waveguides, the optical coupler including a waveguide region and a region surrounding the waveguide region, the waveguide region having a first refractive index and a shape that diverges from the first end of each of the first and second optical waveguides as defined by overlapping cones of light emitted from the first ends of the first and second optical waveguides into the optical coupler in combination with the other limitations of claims 1 and 11.

Claims 2, 3 and 8 depend from claim 1.

Claims 13-15 and 18 depend from claim 11.

The prior art of record also fails to disclose a method for aligning optical waveguides and an apparatus of an optical waveguide device comprising an optical coupler extending across the gap between the first ends of the waveguides, the optical coupler comprising material including a waveguide region, the waveguide region having

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a shape defined by overlapping cones of light emitted from the first ends of the optical waveguides into the material; wherein the material undergoes cross-linking by one of one-photon absorption and two-photon absorption in combination with the other limitations of claims 4 and 16.

The prior art of record also fails to disclose an optical waveguide device comprising an optical coupler extending across the gap between the first ends of the waveguides, the optical coupler comprising material including a waveguide region, the waveguide region having a shape defined by overlapping cones of light emitted from the first ends of the optical waveguides into the material in combination with the other limitations of claims 6, 7 and 9.

The prior art of record also fails to disclose a method for aligning optical waveguides, the method comprising the steps of axially aligning the first and second optical waveguides leaving a gap between adjacent ends of the aligned waveguides; exposing the material to conical beams of light emitted from the adjacent ends of the waveguides, the exposing increasing the refractive index of the material in a region in which the beams of light overlap and uniformly exposing the material to light of an intensity less than the intensity in the region in combination with the other limitations of claim 12.

The examiner agrees with applicants' arguments on pages 9-11 in the remarks accompanying the amendment of July 8, 2005, and fully concurs that Yoshimura et al. reference does not disclose or suggest a method for aligning optical waveguides and an apparatus of an optical waveguide device with all limitations as defined above.

Claims 1-4, 6-9, 11-16 and 18 are therefore allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script that reads "Jennifer Doan".

Jennifer Doan

Patent examiner

October 12, 2005